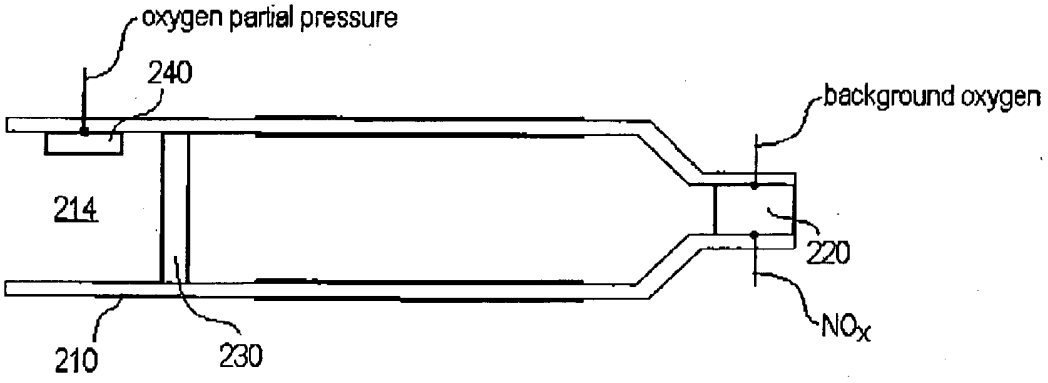
REMARKS

Claims 4, 5, 7-22, 24-29,31, and 32-34 are pending in the present application. By the present amendment, claims 4, 5, 7, 9, 11, 13, 16-18, 20, 21, 24, 25, 27 and 28 have been amended, claims 1-3, 6, 23, and 30 have been canceled, and claims 31-34 have been added. Applicant notes that the rejections lodged under 35 U.S.C. §§112 and 103 have been rendered moot by the present amendments.

The currently pending set of claims includes one independent claim (claim 31). Referring to the schematic illustration of Fig. 8B, represented in simplified and annotated form below, independent claim 31 recites, among other things, a partial enclosure 210, a diffusion barrier 230, an oxygen sensor 240 configured to provide a signal indicative of oxygen partial pressure in an inlet portion 214 of the enclosure 210, and a sensor body 220 comprising a plurality of non-dissociative oxygen-porous electrode layers and a plurality of dissociative oxygen-porous electrode layers. The oxygen sensor 240 and the sensor body 220 are disposed on opposite sides of the diffusion barrier 230. Respective outputs are coupled to the non-dissociative oxygen-porous electrode layers for generating an indication of background oxygen and to the dissociative oxygen-porous electrode layers for generating an indication of NO_X content.



Applicant respectfully submits that the cited art of record does not teach or suggest a combined sensor for measuring oxygen content and NO_X content in a gas where the sensor includes each of the elements recited in claim 31. For example, Tojo et al. (US 6,068,747), the reference primarily relied upon in the Office Action of February 12, 2004, does not teach or suggest a sensor where an oxygen sensor and a sensor body are disposed on opposite sides of a diffusion barrier. In this manner, the oxygen sensor can generate a signal indicative of oxygen partial pressure in the sensor inlet, while the sensor body, which includes non-dissociative and dissociative electrodes, generates signals indicative of background oxygen and NO_X content.

New independent claim 33 recites a combined sensor for measuring oxygen content and NO_X content in a gas where the sensor body comprises a plurality of non-dissociative oxygen-porous electrode layers interdispersed between ceramic layers of said monolithic sensor body and a plurality of dissociative oxygen-porous electrode layers interdispersed between ceramic layers of said monolithic sensor body. The electrode and ceramic layers are arranged to form a monolithic sensor body having alternating ceramic and metallic layers. None of the prior art of record even remotely suggests a combined oxygen/NO_X sensor including a sensor body of this nature.

New dependent claim 34 further recites that the electrode layers are arranged such that one of the non-dissociative electrode layers and one of the dissociative electrode layers define the sole adjacent pair of different-type electrode layers of said monolithic sensor body and have matching polarity. In this manner, pumping of oxygen between the oxygen-porous electrode layer 16a and the dissociative oxygen-porous electrode layer 16b is inhibited (see specification, page 15, lines 17-25). None of the cited art suggests such a configuration.

Accordingly, applicant respectfully submits that the present application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

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Regarding the literature cited in the IDS of February 27, 2002, applicant notes that the two references at issue appear to have been cited in error. Applicant has been unable to locate copies of the references in the original file.

Respectfully submitted,

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